

(2) Securely supported and when necessary protected against damage;

(3) Protected inside and out against corrosion; and

(4) Equipped with:

(i) Dead end lines (dirt traps) that extend at least 2 inches beyond the last nozzle of each distribution line and that are closed with a cap or plug; and

(ii) Drains and dirt traps, fitted where necessary to prevent dirt or moisture accumulation and located in accessible locations where possible.

(b) *Piping requirements.* Piping must be:

(1) Used exclusively for extinguishing system purposes;

(2) Protected by a pressure relief valve in sections where gas pressure can be trapped between closed valves; and

(3) Welded if it passes through living quarters.

(c) *Piping prohibitions.* Piping must not:

(1) Use rolled groove or cut groove ends; or

(2) Be fitted with drains or other openings if it passes through living quarters.

(d) *Valve requirements.* Valves for system operation must be:

(1) Outside the protected space, and

(2) Marked, if serving a branch line, to indicate the space the branch line serves.

(e) *Valve prohibitions.* Valves may not be located in any space that could be cut off from the operator in the event of fire in the protected space.

#### § 95.16–15 Extinguishing agent: Quantity.

A separate supply need not be provided for each space protected, but the total available supply must be at least sufficient for the space requiring the greatest amount.

#### § 95.16–20 Extinguishing agent: Cylinder storage.

(a) Unless installed as required in paragraph (b) of this section, the agent must be stored outside of the protected space. Common bulkheads and decks located between the cylinder storage room and the protected spaces must meet the insulation criteria for Class A–60, as defined in 46 CFR 72.05–10.

(b) The cylinders may be stored inside the protected space, if:

(1) The space does not exceed 6,000 cubic feet gross volume; and

(2) The system can be automatically operated by a pneumatic heat actuator as well as a remote manual control.

(c) The cylinder storage space must be properly ventilated and designed to preclude an anticipated ambient temperature in excess of 130 °Fahrenheit.

(d) The cylinders must be securely fastened and supported as directed in the manufacturer's approved design, installation, operation, and maintenance manual, and where necessary protected against damage.

(e) The cylinders must be mounted so they are readily accessible and capable of easy removal for recharging and inspection and for weighing in the case of halocarbon system cylinders.

(f) The cylinders must be installed to provide a space of at least 2 inches between the deck and the bottom of the cylinders. A tray or other bottom support located 2 inches above the deck is an acceptable arrangement.

(g) The cylinders must be mounted upright, unless otherwise specified in the instruction manual.

(h) All cylinder storage room doors must open outward.

#### § 95.16–25 Manifold and cylinder arrangements.

(a) A check valve must be provided between each cylinder and manifold or distribution piping. The valve must be permanently marked to indicate the direction of flow.

(b) If the same cylinder is used to protect more than one space, normally, closed stop valves must be provided to direct the agent into each protected space.

(c) Each cylinder must be fabricated, tested, and marked in accordance with 46 CFR 147.60(b) and 49 CFR part 180.

(d) The cylinders in a common manifold must be:

(1) Of the same size;

(2) Filled with the same amount of agent; and

(3) Pressurized to the same working pressure.